

This listing of claims replaces all prior versions, and listings, of claims in the present application.

Listing of Claims:

Claim 2 (Canceled).

Claim 5 (Canceled).

Claim 6 (Canceled).

Claim 8 (Canceled).

Claim 11 (Canceled).

Claim 12 (Canceled).

Claim 16 (Canceled).

Claim 17 (Canceled).

Claim 18 (Canceled).

Claim 19 (Canceled).

1. (Currently Amended) An active pixel sensor comprising:

a photoreceptor, wherein the photoreceptor comprises a pinned photodiode;

a frame shutter wherein the frame shutter is a NMOS frame shutter in an P-well; and

an active pixel readout.

3. (Currently amended) The active pixel sensor of Claim 2-1, wherein the frame shutter includes sample and hold and reset circuits.

4. (Currently Amended) The active pixel sensor of Claim 3, wherein the sample and hold and reset circuits comprise PMOS NMOS transistors.

7. (Currently Amended) An active pixel sensor comprising:

a photoreceptor, wherein the photoreceptor comprises a pinned photodiode;

a frame shutter, wherein the frame shutter is a PMOS frame shutter in a N-well; and

an active pixel readout.

9. (Original) The active pixel sensor of Claim 7, wherein the frame shutter includes sample and hold and reset circuits.

10. (Original) The active pixel sensor of Claim 9 , wherein the sample and hold and reset circuits comprise NMOS transistors.

13. (Original) An active pixel sensor comprising:

a photoreceptor, wherein the photoreceptor comprises a pinned photodiode;

a frame shutter, wherein the frame shutter comprises a NMOS frame shutter in a P-well;

and

an active pixel readout.

14. (Original) The active pixel sensor of Claim 13, wherein the frame shutter includes sample and hold and reset circuits.

15. (Original) The active pixel sensor of Claim 14, wherein the sample and hold and reset circuits comprise NMOS transistors.

20. (New) An active pixel sensor comprising:

a photoreceptor;

an active pixel readout circuit, comprising source follower and row select transistors;

and

an NMOS frame shutter comprising sample and hold and reset circuits, wherein the frame shutter is in a P-well, and wherein the sample circuit is in direct electrical connection to the source follower transistor of the active pixel readout circuit.

21. (New) The active pixel sensor of Claim 20 wherein the photoreceptor is a pinned photodiode.

22. (New) The active pixel sensor of Claim 20 wherein the sample and hold and reset circuits are NMOS transistors.

23. (New) An active pixel sensor comprising:

a photoreceptor comprising a pinned photodiode;

an active pixel readout circuit, comprising source follower and row select transistors;

and

a PMOS frame shutter comprising sample and hold and reset circuits, wherein the frame shutter is in an N-well, and wherein the sample circuit is in direct electrical connection to the source follower transistor of the active pixel readout circuit.

24.(New) The pixel sensor of Claim 23 wherein the sample and hold and reset circuits are PMOS transistors.